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1.0 GENERAL

1.1 SUMMARY

California's OTech Services provides a number of database management system (DBMS) technologies on various hardware and operating system platforms. This document provides guidance on using Microsoft SQL Server.

OTech offers MS SQL Server and administration on leased equipment within the Application Hosting offering. Included in this offering is installation, patching and product maintenance. Staff performs these tasks according to standard procedures and configurations. MS SQL is offered on either a dedicated or shared MS Windows platform. In the shared Windows platform, multiple customers share a single database installation.

OTech supports version(s) of MS SQL in accordance with the OTech Software Version Support Procedure. Failure to migrate off of unsupported versions by predetermined dates may incur additional charges and experience support delays. Refer to the [OTech Procedure 4000 – Software Version Support](#) for details.

Databases should not require the permanent use of system administrator account(s) in order to function. Customers may be provided temporary DBMS administrative privileges for a limited time. This privilege may incur an additional charge and must be authorized by the OTech prior to use.

1.2 REFERENCES

Items referenced here support the information provided in this document.

IDENTIFIER	TITLE
04.13.875	Microsoft SQL Server Submittal
04.17.866	Microsoft Windows Server Submittal
3132	Standard 3132 – Midrange Database Security
4000	Software Version Support Policy
4000	Procedure 4000 – Software Version Support
Website	Contact Information
3138	Standard 3138 - System Administrator Standard
3502	3502 – Information Security Exception Request

1.3 SUBMITTALS

1.3.1 General

OTech is available to advise and assist customers in formulating IT designs that will leverage available service offerings. Contact your Account Manager to engage architectural/engineering and design consulting services. Additional charges may be incurred.

Include the Customer's name, contact information and associated project name on forms, documents, and requests submitted to OTech.

Use the following method for work requests:

Item	Request Method
Quotes & Billable Service	Customer Service System (CSS) Service Request
Modifications to Existing Systems	Service Desk , CSS or Remedy Service Request
Technical Problems	Service Desk or Remedy Incident
Security Related Issues/Incidents	Service Desk
Temporary DBMS Administrator Privilege Request	Information Security Exception Request. Follow procedure outlined in Standard 3132 - Midrange Database Security and Procedure 3502 – Information Security Request

1.3.2 Service Request

A completed [MS SQL Server Submittal](#) is required prior to the start of work. To aid in the preparation of providing this technology, all information must be included in the OTech Service Request.

This Submittal is to be revised at appropriate intervals providing for expeditious and practicable execution of the Work. Revised submittal(s) must indicate changes, if any.

1.4 EXPECTATIONS

1.4.1 OTech

OTech manages contract and licensing for DBMS software and serves as liaison between the customer and Microsoft for technical system-level DBMS issues.

Technology products must be within vendor supported versions to sustain availability and integrity. OTech documents end-of-support and will inform Customers of the upgrade plan through OTech Account Managers and E-News notifications.

OTech follows change management practices. Change requests are recorded in the OTech Remedy system, as a Change Request (CRQ). OTech account managers

can provide current change procedures.

1.4.2 Customer

Customers are expected to maintain logical and physical database design diagram(s) and provide them to OTech upon request. Customers should update the logical and physical database design diagram(s) as the database environment(s) are completed and accepted by the Customer.

Customers are expected to understand product lifecycles and collaborate with OTech on upgrades, testing, and verification of their database technology before the end-of-support date. Failure to migrate off of unsupported versions may incur additional charges. Refer to the [Procedure 4000 – Software Version Support](#) for details.

Customers are expected to determine and submit details on hardware capacity needs (e.g., RAM, storage space) and software (e.g., version and edition of MS SQL Server).

Customers are expected to identify and lead the resolution of database application related problems. Customers may identify and report system level database problems to OTech.

1.5 SCHEDULING

OTech's goal is to provide timely and economical technology service. Customers promote this goal by promptly providing information requested, and by keeping the OTech project manager / account manager informed of technology project status.

1.5.1 Maintenance Window

MS SQL Server maintenance window is Saturday from 7:00AM to 12:00PM during which time patching or upgrades may occur.

1.5.2 Backup

OTech Enterprise Backup Solution performs database backups according to the following schedule:

WHAT	WHEN
Full Backup	Daily
*Transaction Log Backup	Daily, every three hours
Backup Retention	28 days

*If a different transaction log backup frequency is needed please consult the OTech SQL Server Support Team.

1.5.3 Change Management Schedule

MS SQL Server change proposal / requests follow the established OTech Change Management process. Changes require 2-week prior notification. Shorter periods may not always be accommodated. Security related changes adhere to OTech Security Patching and Monitoring Standard.

Additional charges may be incurred for expedited change requests.

1.6 DEFINITIONS

Term, phrase, abbreviation	Definition
DBMS	Database Management System
SA	System Administrator
SDK	Software Development Kit

2.0 PRODUCTS

Additional components and specific DBMS configuration needs should be documented in 1.3 - SUBMITTALS. Mainstream support will end July 2017 and extended support will end July 2022 for MS SQL Server 2012. Mainstream support will end on July 9, 2019 and extended support will end on July 9, 2024 for MS SQL Server 2014.

2.1 *MS SQL Server 2014 & 2012 Components*

1. Database Engine Services
2. Management Tools Basic & Complete
3. Documentation Components

2.1.1 **MS SQL Server 2014 Optional Components**

1. SQL Server Replication
2. Full-Text and Semantic Extractions for Search
3. Data Quality Services
4. Analysis Services
5. Reporting Services – Native
6. Reporting Services – Sharepoint
7. Reporting Services Add-in for Sharepoint Products
8. Data Quality Client
9. Client Tools Connectivity
10. Integration Services
11. Client Tools Backwards Compatibility
12. Client Tools SDK
13. Distributed Replay Controller
14. Distributed Replay Client
15. SQL Client Connectivity SDK
16. Master Data Services

2.1.2 **MS SQL Server 2012 Optional Components**

1. SQL Server Replication
2. Full-Text and Semantic Extractions for Search
3. Data Quality
4. Analysis Services
5. Reporting Services – Native
6. Reporting Services – Sharepoint
7. Reporting Services Add-in for Sharepoint Products
8. Data Quality Client
9. SQL Server Data Tools
10. Client Tools Connectivity
11. Integration Services
12. Client Tools Backwards Compatibility

- 13. Client Tools SDK
- 14. Distributed Replay Controller
- 15. Distributed Replay Client
- 16. SQL Client Connectivity SDK
- 17. Master Data Services

2.2 PLATFORM

OTech supports MS SQL Server on MS Windows and Virtual Machine Platforms.

3.0 EXECUTION

3.1 SECURITY

3.1.1 During Installation

Requests for SQL Reporting Services will initiate a brief architectural review and may require additional discussions should the review findings discover a potential security risk. Any additional discussions will not be a cost to the Customer.

Customers may be provided System Administrator (SA) privileges for a 30-day period during the constructions of new servers and server refresh periods. Customers will be provided database owner (DBO) access during the installation of the SQL Server database(s). Customers must adhere to the following use restrictions. Failure to comply will result in access revocation.

1. Database owner access or equivalent for purposes of database maintenance only
2. DBCreator and BulkAdmin access for purposes of performing ad hock backups and restoration of databases
3. Applications must have specific roles and/or user permissions as needed to perform application functions

3.1.2 Post Installation

MS SQL Server Administration (SA) Authority is restricted to OTech designated personnel. Customers may be granted temporary SA rights, post installation, to their leased installations of MS SQL Server during development. If Customers require temporary SA rights, extended use of SA privileges, or implementations of transparent data encryption (TDE) and/or replication, an Information Security Exception Request must be submitted. Please follow the procedure outlined in [Procedure 3502 – Information Security Exception Request](#) and adhere to both the [Standard 3132 - Midrange Database Security](#) and [Standard 3138 – System Administrator Standard](#).

Configuration changes made outside the scope delineated above and needing intervention, correction, or troubleshooting by OTech staff may incur additional charges.

3.2 SUPPORT AVAILABILITY

The core business hours for MS SQL Server technical support are Monday through Friday 0800 – 1700. State holidays and mandated schedule alterations are observed and may impact staff availability.

3.3 QUALITY CONTROL

MS SQL Server installation requests must be reviewed and approved by OTech.

1. MS SQL Server installation is provided by OTech in accordance with the manufacturer installation procedures and MS SQL Server Submittal.
2. Configurations include:
 - a. Security Mode: Mixed Mode
 - b. Named-Pipes: Disabled
 - c. Database Owner access privileges

3.3.1 OTech Responsibilities

1. Review and approval of submitted information prior to beginning work.
2. Notify Customer of submittal flaws, if any.
3. MS SQL installation, upgrades, patching, and standard configuration.
4. Assist customer in specifying design in accordance with information provided in 1.3 - SUBMITTALS.
5. Assist customer with DBMS incident resolution subsequent to application configuration changes.

3.3.2 Customer Responsibilities

1. Design, develop, deploy, test the database and maintain its interaction with application(s).
2. Submit complete 1.3 - SUBMITTALS information.

3.4 INSTALLATION

3.4.1 OTech Responsibilities

1. System-level administration
2. Assist customers with data migration
3. Maintain data and log file backups
4. Create database user account(s) within MS SQL and assign permissions in accordance with MS SQL Server Submittal
5. Monitor and fine tune DBMS software
6. Review and recommend optional configurations that may better meet capacity and performance requirements in accordance with the MS SQL Server Submittal
7. Perform DBMS version migrations, patching and upgrades
8. Maintain database administration tools
9. Maintain DBMS software/configurations
10. Resolve RDMS system-level problems or seek vendor support for DMBS issues through authorized escalation processes

3.4.2 Customer Responsibilities

1. Define database availability requirements
2. Document database design and application architecture
3. Maintain database dictionaries
4. Respond to notifications provided by OTech staff with mitigating action
5. Maintain application and database statistics
6. Test new maintenance and software releases at user and application levels
7. Submit service request(s) to purchase MS SQL Server licenses or renew maintenance
8. Additional charges for OTech intervention, troubleshooting and correction of unauthorized changes. This may include a pass-thru charge of licensed auditing software used to repair unauthorized changes
9. Create and maintain database objects
10. Load database data via access provided through MS SQL Server Management Studio
11. Application design, maintenance, and migration must adhere to supported software versions
12. Code modification
13. Provide database scripts, if applicable
14. Notify OTech of Third Party Software application software, components and accessories affecting the DMBS during configuration, tuning and upgrades of the application software